

Attorney Docket Number: WAA-248 C1
Application No.: 10/650,213
Filed: August 28, 2003

II. Discussion

A. Priority

The Examiner contends Applicant can not claim priority under 35 USC Section 119 based on Applicant's PCT Application filed on March 1, 2002. Applicant respectfully requests the Examiner reconsider Applicant's claim of priority, under 35 USC Section 120, rather than 35 USC Section 119.

Applicant, through a clerical error, claimed priority under 35 USC Section 119 in the Oath and Declaration. The claim of priority under 35 USC Section 119 may not be quite appropriate because the present application and its parent applications have never been foreign to this country. All filings have been in the United States, with the PCT filing designating the United States.

Indeed, such claim is appropriate under 35 USC Section 120. Applicant claim such priority and point out that the present application has been copending with the earlier PCT application PCT/US02/06336 which in turn was copending with the original provisional application 60/273,093. In the section, Cross Reference to Related Applications, the present application identifies such applications and claims priority to each. This claim to priority was made as of the time the present application was filed.

Applicant respectfully submits the claim to priority to earlier filed applications is valid, under 35 USC Section 120, rather than Section 119.

B. Rejections Under 35 USC Section 103(a)

The Examiner has rejected claims 11 – 15, 17 – 19, 21 – 23 and 27 – 29 under 35 USC Section 103(a). The Examiner contends the subject matter of such claims is obvious over Liu in view of Doyle. Reconsideration of the present rejections is respectfully requested.

Applicant respectfully submits the rejection is misplaced. The rejection is misplaced because the subject matter of the rejected claims is not taught, disclosed or suggested by either of the references alone or in combination. And, the Doyle reference can not properly be applied to the inventions of the present application.

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Turning first to the invention of claim 11 of the present application, the invention is defined as a method for measuring fluorescence. The method comprises the steps of passing a liquid through a flow channel. And, the method comprises the step of directing an excitation beam axially through the flow channel and retro reflecting the beam back such that both excitation passes generate fluorescence. The fluorescence is emitted through an emission window substantially parallel to the axis and detected.

Lui discloses a method of measuring fluorescence. Lui teaches the steps of passing a liquid through a flow channel and directing an excitation beam axially through the flow channel. Fluorescence is emitted and detected through an emission window substantially parallel to the axis. However, nowhere does Lui teach, disclose or suggest that the efficiency of the excitation beam needs to be improved. Nowhere does Lui teach, disclose or suggest that the beam should be reflected back to create a further excitation pass. Rather, Lui teaches that the fluorescence signal needs to be maximized by using a mirror to reflect such signal to the window.

The Examiner contends that Doyle discloses a flow cell including a measuring device comprising a flow channel for the steps of passing a liquid sample and directing an excitation beam into. The Examiner contends that a mirror is used to retro-reflect the excitation beam, with "both passes generating fluorescence". (See: Office Action, page 3).

Applicant respectfully submits that the Examiner has mischaracterized Doyle. Indeed, Doyle is directed to Raman spectroscopy and not fluorescence. The optical arrangements of Doyle are suitable for the study of Raman emission shifts. Nowhere does Doyle suggest the measurement of fluorescence.

And, there is no suggestion in Doyle that an emission window should be positioned parallel to the axis of excitation. Indeed, to do so would seem to deviate significantly from the teaching of Doyle. Doyle suggests that Raman emissions are rare events and produce small signals. The mirror is intended not only to reflect the excitation beam but also the Raman emissions so that such emissions can be detected. (See: column 2 line 20). Doyle appears to collect the Raman emissions along the axis where the Raman signal can compete with the stronger Rayleigh light scattering signal.

Applicant respectfully submits that the Raman spectrometer of Doyle can become a device for measuring fluorescence only by using the present

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application as a guide. However, to do so is to view the present invention with hindsight. It is re-engineering the reference in light of the present application.

The teaching of Doyle with respect to Raman emissions do not apply to fluorescence. And, to combine the teaching of Doyle with the teaching of Liu runs contrary to the objects of both. It is contrary to both because Liu is most concerned with maximizing the fluorescence signal with a mirror positioned parallel to the emission window. It runs contrary to Doyle because an emission window parallel to the excitation beam would swamp the weak Raman signals.

Applicant respectfully submits that there is no rationale for the combination of a Raman spectrometry device with the fluorescence device. Claims 11 – 15, 17 – 19, 21 – 23 and 27 – 29 which all require an emission window parallel to the axis of the excitation beam are inventive and nonobvious in view of the references of record.

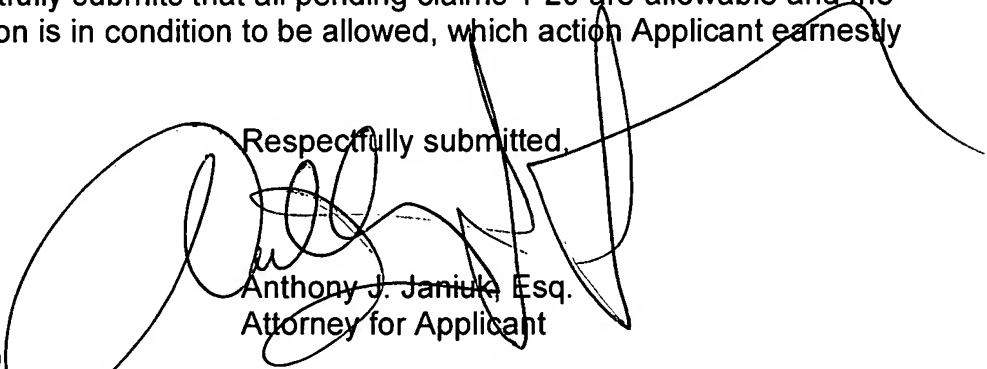
In addition, Doyle is not a proper reference to the present application. The Doyle reference claims priority to a provisional application having a filing date of November 1, 2001. The present application claims priority to a provisional application filed March 2, 2001. Thus, the present application can not be found to lack an inventive step or be obvious in view of Doyle and any other reference.

There being no other art rejections, applicant respectfully submits all claims define inventions that are novel and inventive. There being no other non-art rejections, all claims 1 – 29 are allowable.

III. Conclusion

Applicant respectfully submits that all pending claims 1-29 are allowable and the present application is in condition to be allowed, which action Applicant earnestly solicits.

Respectfully submitted,


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